

## RMySQL Overview

A typical usage of the R-MySQL interface is:

1. Connect and authenticate to one or more MySQL databases:

```
con <- dbConnect(MySQL(),user="user", password="password", dbname="db")
```

2. List tables and fields in a table:

```
dbListTables(con);  
dbListFields(con, "table_name");
```

3. Import and export data.frames:

```
d <- dbReadTable(con, "mysql_table")           ## Import  
dbWriteTable(con, "r_table", r_data_frame)     ## table from a data.frame  
dbWriteTable(con, "r_table", "~/data/data.csv") ## table from a file
```

4. Run an arbitrary SQL statement and extract all its output (returns a data.frame):

```
dbGetQuery(con, "select count(*) from a_table")  
dbGetQuery(con, "select * from a_table")
```

5. Run an SQL statement and extract its output in pieces (returns a result set):

```
rs <- dbSendQuery(con, "select * from mysql_table")  
d1 <- fetch(rs, n = 10000)  
d2 <- fetch(rs, n = -1)
```

6. Run multiple SQL statements and process the various result sets (note the client.flag value in the dbConnect call):

```
con <- dbConnection(MySQL(), dbname = "db_name", client.flag =  
CLIENT_MULTI_STATEMENTS);  
  
script <- paste("select * from mysql_table where val between 0.5 and 1", "select *  
from r_table where id LIKE '2'", sep = ";")  
  
rs1 <- dbSendQuery(con, script)  
d1 <- fetch(result1, n = -1)  
if(dbMoreResults(con)){  
  rs2 <- dbNextResult(con)  
  d2 <- fetch(rs2, n=-1)  
}
```

7. Get meta-information on a connection (thread-id, etc.):

```
summary(MySQL(), verbose = TRUE)  
summary(con, verbose = TRUE)  
summary(rs, verbose = TRUE)  
dbListConnections(MySQL())  
dbListResultSets(con)  
dbHasCompleted(rs)
```

8. Close connections:

```
dbDisconnect(con)  
dbDisconnect(con2)
```